



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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Released: Monday, 3PM

June 4, 2001

Vol. 51, #22

West Lafayette, IN 47907

CROP REPORT FOR WEEK ENDING JUNE 3

AGRICULTURAL SUMMARY

Scattered showers slowed major field activities such as spraying, side-dressing, planting soybeans and baling hay in most areas of the state. Cool, wet weather has slowed crop growth and development. Warm weather and sunshine are needed to improve corn and soybean condition and color. Spraying for armyworms continued in some areas and replanting has been necessary in scattered fields around the state. Farmers should continue to monitor fields for insects.

FIELD CROPS REPORT

There were 2.2 **days** suitable for fieldwork. Corn **condition** declined and is rated 64 percent good to excellent compared with 82 percent last year at this time. Ninety-eight percent of the **soybean** acreage is planted compared with 93 percent a year ago and 75 percent for the average. By area, 99 percent of the soybean acreage is planted in the north, 99 percent in the central regions and 93 percent in the south. Ninety-five percent of the intended soybean acreage has **emerged** compared with 84 percent last year. Soybean **condition** declined and is rated 59 percent good to excellent compared with 67 percent last year. Other activities during the week included spraying, applying anhydrous ammonia, cleaning and repairing equipment, baling hay, chopping forage, mowing roads and hauling manure.

All of the winter wheat has now **headed** compared with 86 percent for the average. Winter wheat **condition** is rated 66 percent good to excellent compared with 80 percent a year ago at this time.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 7 percent excellent, 42 percent good, 26 percent fair, 16 percent poor and 9 percent very poor. Transplanting of **tobacco** is 48 percent complete compared with 37 percent for the average. First cutting of **alfalfa** hay is 47 percent complete compared with 51 percent last year and 43 percent for the 5-year average.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Soybeans Planted	98	96	93	75
Soybeans Emerged	95	88	84	NA
Winter Wheat Headed	100	100	100	86
Tobacco Plants Set	48	31	60	37
Alfalfa First Cutting	47	30	51	43

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	1	6	29	52	12
Soybeans	2	6	33	53	6
Pasture	9	16	26	42	7
Winter Wheat 2001	3	7	24	56	10

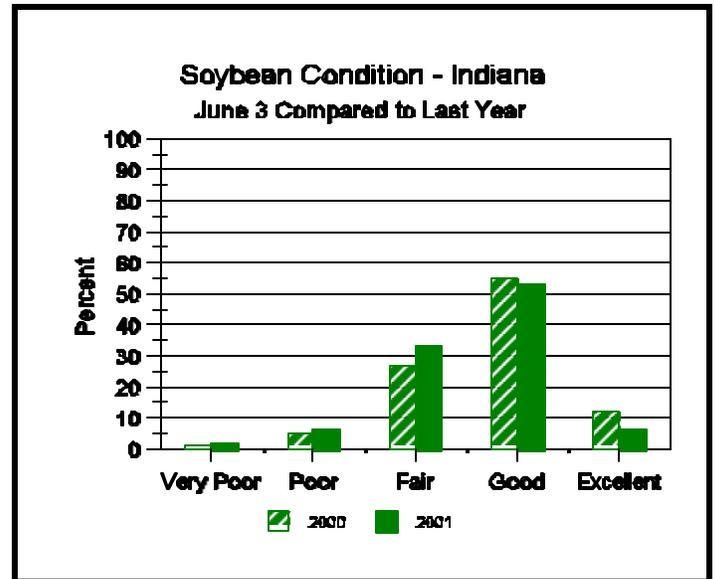
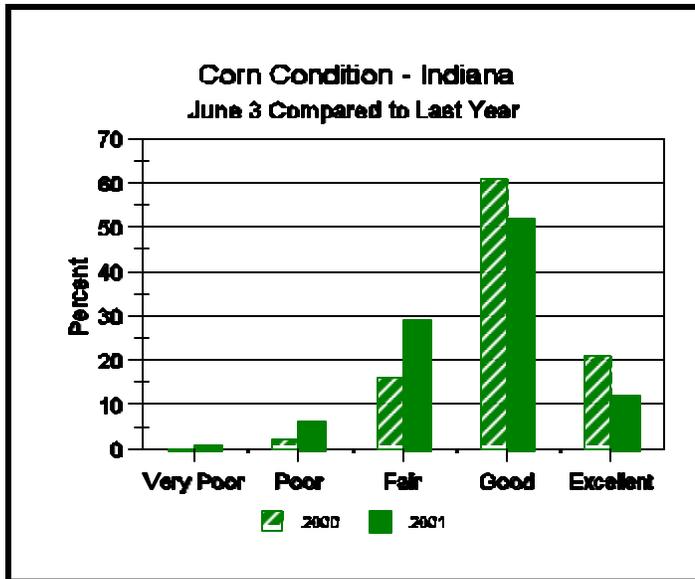
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	1	2	1
Short	3	9	9
Adequate	72	65	77
Surplus	24	24	13
Subsoil			
Very Short	5	7	7
Short	19	23	32
Adequate	66	64	58
Surplus	10	6	3
Days Suitable	2.2	1.7	3.7

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Crop Progress



Other Agricultural Comments And News

When Good Corn Fields Turn Bad

- Some fields emerged unevenly. Others emerged uniformly, but subsequently turned ugly
- The causes are usually below ground. Typically, more than one cause is involved
- Growing conditions greatly influence the situation

Most corn growers will tell you that the maximum corn yield potential of a hybrid exists while the seed is still in the bag. Once the seed is in the ground, the challenge is to protect that yield potential from the many potential stresses that await the developing crop. This growing season is doing its best to reinforce that belief.

Around the state, folks are lamenting the fact that fields of corn that had emerged uniformly and initially developed uniformly are now fields that contain plants of uneven color and size. Other fields did not emerge uniformly to begin with. The recent spate of unusually cool temperatures and (in some places) excessive rainfall has contributed to the further development of fields that can only be labeled as ugly.

Why worry about uneven stands of corn? Simply put, it leads to unfair competition among adjacent plants and, ultimately, to a lower yield potential for the field. Research from Illinois and Wisconsin documented potential yield losses ranging from 8 to 20% due to uneven emergence, depending on the degree of delayed emergence timing and the extent to which the field was affected. Basically, if delayed emergers are two leaves or greater behind the original emergers, the delayed emergers will likely be barren at the end of the year. Yield losses to competition among plants of similar age but varying degrees of health or vigor is more difficult to document, but likely mimics that due to uneven emergence.

What causes uneven emergence? The three common causes are a) uneven soil moisture in the seed furrow,

b) uneven seed to soil contact and c) uneven soil temperature in the seed furrow. The order in which I listed these causes is probably the order of frequency in which they were responsible for uneven emergence in 2001.

I've seen more instances of delayed emergence due to soil moisture problems this year than in many recent years. In some cases, the problem was related to a) uneven seeding depth or b) uneven soil moisture at the selected seeding depth. In other cases, preplant tillage left a cloddy seedbed, especially in the tillage tire tracks, and those areas of the planted field had to wait for the recent soaking rains before germination occurred. It is not uncommon to find fields with plant variability for growth stage as great as four leaves, meaning that if the original emergers are at the V6 stage of development, the delayed emergers are at growth stage V2.

What causes fields that emerged uniformly to later turn ugly? Almost invariably the cause lies below ground. Several weeks ago, I briefly reviewed how roots are supposed to develop in corn (P&C Newsletter, 11 May). In that article, I emphasized the importance of maintaining the health of the seed and the mesocotyl until the nodal root system was successfully established. As the nodal roots develop, the importance of the seed reserves and the mesocotyl (the 'pipeline' to those reserves) declines.

For all practical purposes, the time from planting to about V4 to V6 can be labeled the 'critical stand establishment' period for corn. If a field of corn successfully develops to the V4 to V6 (four to six visible leaf collars) stages with no damage to mesocotyls or seeds, chances are that field will look very uniform. If, however, mesocotyl or seed damage occurs prior to substantial nodal root development, seedlings will either die or be severely stunted.

Consequently, a field that may have emerged uniformly and initially looked quite uniform may become very uneven in appearance if initial seedling development has been affected by one or more stresses.

(Continued on Page 4)

Weather Information Table

Week ending Sunday June 3, 2001

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg	April 1, 2001 thru June 3, 2001				
							4 in	Precipitation		GDD Base 50°F		
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Valparaiso_Ag	67	41	55	-11	0.61	4		8.32	+0.09	35	595	+133
Wanatah	70	39	55	-10	1.22	4	60	8.03	+0.22	36	578	+165
Wheatfield	72	42	56	-10	0.97	4		7.86	+0.25	37	633	+193
Winamac	72	43	55	-11	0.90	3	61	9.11	+1.51	34	647	+158
North Central(2)												
Logansport	74	45	56	-11	1.07	5		8.74	+1.15	35	621	+135
Plymouth	69	40	55	-13	0.84	4		7.65	-0.40	35	563	+50
South_Bend	69	37	55	-10	1.42	4		8.82	+1.41	33	613	+173
Young_America	74	42	57	-10	1.16	4		7.28	-0.31	30	697	+211
Northeast (3)												
Bluffton	73	45	57	-10	1.02	4	58	9.19	+1.48	34	644	+142
Fort_Wayne	74	42	57	-10	1.15	4		7.27	+0.10	36	634	+169
West Central (4)												
Crawfordsville	78	43	58	-10	1.39	4	64	6.44	-2.02	30	656	+85
Perrysville	77	46	58	-9	0.52	4	62	4.96	-3.37	30	756	+218
Terre_Haute_Ag	79	40	59	-10	0.87	2	66	10.30	+1.57	28	843	+243
W_Lafayette_6NW	76	45	58	-9	0.73	4	60	6.43	-1.53	29	720	+228
Central (5)												
Castleton	75	46	59	-10	1.47	4		9.49	+1.00	29	735	+168
Greenfield	76	45	58	-9	0.52	4		7.46	-1.19	29	731	+191
Greensburg	75	41	59	-9	0.16	4		8.44	-0.81	26	794	+246
Indianapolis_AP	76	44	59	-9	0.76	4		6.52	-1.54	24	812	+223
Indianapolis_SE	75	44	57	-12	0.41	4		6.10	-2.39	23	707	+140
Tipton_Ag	74	45	56	-10	0.95	4	60	7.57	-0.51	26	621	+168
East Central (6)												
Farmland	75	45	58	-8	0.36	4	56	9.41	+1.65	29	638	+201
New_Castle	73	44	56	-11	0.96	4		11.07	+2.17	31	560	+110
Southwest (7)												
Dubois_Ag	78	45	62	-6	0.20	4	67	5.45	-4.00	23	883	+255
Evansville	79	48	65	-6	0.68	4		5.56	-3.60	24	994	+234
Freelandville	77	49	62	-7	0.92	2		5.53	-3.80	24	879	+246
Shoals	77	44	60	-8	0.21	3		5.70	-4.11	23	816	+207
Vincennes_5NE	77	47	61	-8	0.97	3	63	4.28	-5.05	20	913	+280
South Central(8)												
Bloomington	75	46	60	-9	0.53	5		5.81	-3.24	28	826	+207
Tell_City	78	49	64	-6	0.05	2		4.38	-5.64	16	959	+253
Southeast (9)												
Scottsburg	77	48	61	-8	0.55	4		7.36	-1.67	26	861	+226

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DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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When Good Corn Fields Turn Bad (Continued)

What stresses are we talking about? The list of potential stresses that can injure the seed, seed roots or mesocotyl is not particularly long, but deciding which ones to blame can be difficult since more than one is usually present in any given field. The list of possible offenders includes:

- Seed rot fungi
- Seedling blight fungi
- Grubs of various types
- Prying agronomists
- Excessively wet soils (death by drowning)
- Excessively dry soils (death by desiccation)
- Anhydrous ammonia fertilizer 'burn'
- Wireworms
- Seedcorn maggots
- Starter fertilizer "burn"

Other factors that influence the effects of these early stresses include cool soils in general, sandblasting injury, herbicide injury, excessively dry conditions and ponding. All of these weather-related stresses slow or hinder the early growth of corn seedlings and make them more vulnerable to the above list of stresses. Similarly, while most herbicides that can injure corn do not do so to such young seedlings, later injury will subsequently hamper the recovery of an already struggling crop.

Seed quality and the hybrid's inherent seedling vigor also play an important role in determining the consequence of injury during stand establishment. Otherwise minor stresses during stand establishment can have major effects on overall plant health if seed quality is less than acceptable or if seedling vigor is simply average.

So, what's a guy to do? The bad news is that if stand establishment this year is crappy (an agronomic term meaning uneven), there is little you can do about it now. As you think about next year, there are a few things you can keep in mind to minimize the future risk of crappy stands.

- Create as little surface compaction as you possibly can prior to planting
- Avoid working wet ground and creating cloddy seedbeds
- Don't go hog-wild on earlier than normal planting. Recognize that seed fungicide treatments only provide 10 to 14 days of protection under "normal" conditions (Illinois Pest & Crop Bulletin, 15 May 1998).
- Plant your best-vigor hybrids first. (Requires home-work on your part)
- Plant your best quality seed lots first. (Requires home-work on your part)
- Plant your best-drained fields first.
- Consider planter-applied insecticide for protection against wireworm and seedcorn maggot if you are certain of their presence.
- If soil conditions are unusually dry at planting, aim for a seeding depth that maximizes soil moisture uniformity in the seed furrow.

A Final Comment. Any time that germination, emergence AND/OR stand establishment are delayed significantly, the developing crop is simply exposed to a lengthier period of stresses from the list above. The consequence of such stresses on a slowly developing crop is exactly the uneven stands of corn that some corn growers are lamenting about now.

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew Café on the World Wide Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at <http://www.kingcorn.org/>.

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The INDIANA CROP WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148. Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148.